



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,376	03/21/2001	Garry Holcomb	16458.050	3939

28286 7590 12/31/2003

IP PATENTS  
FAEGRE & BENSON LLP  
1900 FIFTEENTH STREET  
BOULDER, CO 80302

EXAMINER

STRIMBU, GREGORY J

ART UNIT	PAPER NUMBER
----------	--------------

3634

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/815,376

Applicant(s)

HOLCOMB ET AL.

Examiner

Gregory J. Strimbu

Art Unit

3634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3,8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,8 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.                      6) ☐ Other:

Art Unit: 3634

The declaration of Matthew Taylor has been considered in preparing the following Office action.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it does not describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details since it fails to include the method of using the combination. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

Claims 1-3, 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Recitations such as "of the type" on line 3 of claim 1 render the claims indefinite because it is unclear what group comprises the type the applicant is referring to. What characteristics must an element have before it can be considered of the type to which the applicant is referring. Recitations such as "combination differential and absolute pressure transducer" on line 11 of claim 1 render the claims indefinite because it is unclear what the applicant is attempting to set forth. What comprises the combination of the differential and absolute pressure transducers? Is the applicant merely referring to the use of both the differential and absolute pressure transducer in the same load lock apparatus? Recitations such as "an exterior door control signal" on line 20 of claim 1 and "exterior door control signals" on line 29 of claim 1 render the claims indefinite because it is unclear if the applicant is referring to the exterior door control signal set forth above or is attempting to set forth another exterior door control signal in addition to the one set forth above. On line 10 of claim 8, it is suggested that the applicant insert --a-- following "sensing" to avoid confusion. On line 22 of claim 8, it is suggested that the applicant insert --an-- following "sensing" to avoid confusion. Recitations such as "a desired absolute pressure" on line 29 of claim 8 render the claims indefinite because it is unclear if the applicant is referring to the desired absolute pressure set forth above or is attempting to set forth another desired absolute pressure in addition to the one set forth above. Recitations such as "the external door" on lines 10-11 of claim 9 render the claims indefinite because it is unclear if the applicant is referring to the exterior door set forth above or is attempting to set forth another door in addition to the ones set forth above.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in Jepson claim 1 in view of Eberhardt et al. The admitted prior art in claim 1 discloses a load lock apparatus for facilitating transfer of parts between a room at ambient atmospheric pressure and a vacuum processing chamber maintained at a pressure less than one torr, wherein the load lock apparatus has an evacuable load lock chamber, an exterior door positioned between the load lock chamber and the room, an interior door positioned between the load lock chamber and the processing chamber, an exterior door actuator that is responsive to an exterior door control signal to open or close the exterior door, an interior door actuator that is responsive to an interior door control signal to open or close the interior door, and a vacuum pump connected to the load lock chamber for evacuating the load lock chamber. The admitted prior art in the preamble of claim 1 is silent concerning pressure transducers.

However, Eberhardt et al. discloses the combination of a differential 34 and absolute 36 pressure (see column 21, lines 30-53) transducer connected in fluid flow relation to a load lock chamber 14, a differential pressure sensor 34 that is capable of sensing a pressure difference between a first side of the differential pressure sensor

Art Unit: 3634

and a second side of the differential pressure sensor, the differential pressure sensor being connected to the chamber and mounted such that the first side is exposed to the ambient atmospheric pressure in the room and such that the second side is exposed to the pressure in the chamber, a differential pressure transducer circuit (not shown, but comprising a portion of the microprocessor based controller set forth in column 15, line 21) connected to the differential pressure sensor and which is capable of generating an exterior door control signal at a preset differential pressure value, an absolute pressure sensor 36 connected to the chamber in such a manner that the absolute pressure sensor is exposed to the pressure in the chamber and an absolute pressure transducer circuit (not shown, but comprising a portion of the microprocessor based controller set forth in column 15, line 21) connected to the absolute sensor and which is capable of generating an interior door control signal at a preset absolute pressure value, an exterior door control link (not shown, but comprising the electrical connection between the microprocessor based controller and the flow control valve (see column 14, lines 37-49) connected between the differential pressure transducer circuit and an exterior door actuator 820, the exterior door control link being capable of delivering exterior door control signals generated by the differential pressure transducer circuit to the exterior door actuator. Finally, Eberhardt et al. teaches the use of a manifold 402 to connect a plurality of components in fluid flow relation to conserve space.

It would have been obvious to one of ordinary skill in the art to provide the admitted prior art of claim 1 with pressure sensors and a control system, as taught by Eberhardt et al., to more accurately control the operation of the interior and exterior

Art Unit: 3634

doors and to provide the admitted prior art of claim 1 with a manifold, as taught by Eberhardt et al., to reduce the amount of space required to house the combination differential and absolute pressure transducers.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in the preamble of Jepson claim 1 and Eberhardt et al. as applied to claim 1 above, and further in view of MKS Instruments Moducell Pirani Analog Transducer, Bulletin. MKS Instruments Moducell Pirani Analog Transducer, Bulletin discloses an absolute pressure transducer comprising a pirani sensor.

It would have been obvious to one of ordinary skill in the art to provide the admitted prior art in the Jepson claim 1, as modified above, with a sensor, as taught by MKS Instruments Moducell Pirani Analog Transducer, Bulletin, to improve the accuracy of the absolute pressure sensor.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in the preamble of Jepson claim 1 and Eberhardt et al. as applied to claim 1 above, and further in view of MKS Instruments Baratron Vacuum, Atmospheric and Pressure Switched Bulletin. MKS Instruments Baratron Vacuum, Atmospheric and Pressure Switched Bulletin discloses a capacitance manometer pressure sensor.

It would have been obvious to one of ordinary skill in the art to provide the admitted prior art of Jepson claim 1, as modified above, with a sensor, as taught by

Art Unit: 3634

MKS Instruments Baratron Vacuum, Atmospheric and Pressure Switched Bulletin, to improve the accuracy of the sensor.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in Jepson claim 1 in view of Eberhardt et al. as applied to claim 1 above. The use of the apparatus as set forth by the admitted prior art in Jepson claim 1 would inherently lead to the method steps set forth in claims 8 and 9.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Strimbu whose telephone number is 703-305-3979. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 703-308-2686. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

A handwritten signature in black ink, appearing to read "Gregory J. Strimbu", with a stylized flourish extending from the end.

Gregory J. Strimbu  
Primary Examiner  
Art Unit 3634  
December 15, 2003